

Application Serial No. 10/617,376
Reply to Office Action dated August 23, 2006

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REMARKS/ARGUMENTS

Initially, it is noted that the Examiner has made the restriction requirement of June 1, 2006 final such that claims 1-13 are now pending in the current application and claims 14-20 have been withdrawn. Presently, claims 1-6, 9-11 and 13 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over McGinniss et al. (U.S. Patent No. 4,491,653) in view of Scip et al. (U.S. Patent Application Publication No. 2004/0171724). This rejection is respectfully traversed.

The present invention is directed to the fluorine gas treatment of washing machine parts, particularly dishwasher tub, door liner and spray arm parts, as well as plastic clothes washing machine baskets. As set forth in the subject application, plastic internal parts for washing machines are becoming increasingly popular due to the relatively low cost, lightweight and flexibility of design offered by plastic. Unfortunately, plastic parts are prone to staining that can detract from the appearance of an appliance. This staining can be particularly problematic in the internal tub zone of a washing machine. The present application addresses this problem and sets forth a specific method whereby plastic washing machine parts are treated with a mixture of fluorine and oxygen gas in order to modify a surface layer of the parts and make them more stain resistant.

McGinniss et al. is directed to a controlled surface fluorination process and teaches a process of fluorinating the surface of a polymeric substrate with a mixture of fluorine gas and air. In particular, McGinniss et al. discusses the treatment of synthetic clothing fibers, polyvinyl chloride (PVC), plastic storage bags and polycarbonate safety glasses. However, as recognized by the Examiner, McGinniss et al. does not teach treating a washing machine component as required by independent claim 1 of the present application.

Application Serial No. 10/617,376
Reply to Office Action dated August 23, 2006

The Examiner's § 103 rejection also relies on Seip et al. which is directed to a molded houseware article containing an additive package to enhance the stain resistance. More specifically, an additive package consisting essentially of a phenolic antioxidant, a phosphite and an acid scavenger incorporated into a polyolefin. Nowhere in the Seip et al. reference is there a teaching or suggestion to use a surface treatment for stain resistance, nor does the Seip et al. reference refer to fluorination. In making this rejection, the Examiner argues that the combination of McGinniss et al. and Seip et al. is proper because they are concerned with a similar field, namely stain-resistant polyolefin surfaces. The Applicant respectfully disagrees that proper motivation exists to combine these references.

In the present instance, the Examiner attempts to combine a reference teaching the surface treatment of solid polymeric substrates (McGinniss et al.), with a reference that teaches forming a household article from a polyolefin composition having particular additives (Seip et al.). There is simply no teaching or motivation in either the McGinniss et al. or Seip et al. references to utilize the surface treatment set forth in McGinniss et al. instead of the polyolefin composition taught in Seip et al., nor is there any teaching or motivation to treat the household articles in Seip et al. with the McGinniss et al. surface treatment process. Why would one of ordinary skill in the art treat the surface of an already stain resistant household article from Seip et al. with the process set forth in McGinniss et al.? Presumably, any such modification would be directly contrary to the teachings in the references. McGinniss et al. only teaches to employ fluorination with cloth fibers, storage bags and safety glasses and Seip et al. teaches to utilize an entirely different process if it is desired to treat household items like drinking glasses and appliance components. Any attempt to replace the phenolic antioxidant, phosphite and acid scavenger additive package of Seip et al. with the fluorination process of McGinniss et al. would completely destroy the teachings of Seip et al. and fail to account for what each reference teaches as a whole. The Examiner goes on to state that one of ordinary skill would have been motivated to combine McGinniss et al. and Seip et al. because of the commercial benefit obtained. See page 4 of the Office Action. However, this is not a proper motivation argument and is not drawn from either of the cited references. A

Application Serial No. 10/617,376
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proper rejection under 35 U.S.C. § 103 cannot be based on hindsight knowledge of the invention under consideration for the sole basis of attempting to meet the recitation of the claims. Specifically, the CAFC in *Environmental Designs, Ltd. v. Union Oil Co. of Cal.*, 218 USPQ 865, 870 (1983) stated:

All the pieces of the present invention were known in the art, ...That all elements of an invention may have been old (the normal situation), or some old and some new, or all new, is, however, simply irrelevant. Virtually all inventions are combinations and virtually all are combinations of old elements. A court must consider what the prior art as a whole would have suggested to one skilled in the art (Case citations).

The Examiner must recognize that the Applicant has not attempted to claim the broad concept of fluorinating plastic components in general. Instead, a fluorination process is being employed to address the specific problem of staining in the limited field of washing machine components. The prior art does not address this invention at all and, in fact, Seip et al. is seen to teach away from utilizing fluorination in connection with any household articles. In addition to the main claim limitations, it is considered that many of the dependent claims further distinguish the present invention. To this end, it should be initially recognized that claim 8 was not included in any rejection presented in the Office Action, yet claims 9-11, which are dependent from claim 8, were rejected. In any case, these claims cover specific applications of the claimed method in connection with treating distinct components of a dishwasher. Although it is true that these components are known in the art of dishwashers as mentioned by the Examiner, it is respectfully submitted that the mere existence of these components in the art does not render obvious the combination presented by the Examiner. Instead, a proper obviousness-type rejection would require a specific suggestion or teaching in the art to employ a fluorination treatment on these components in order to appropriately address the claimed invention. Simply stated, McGinniss et al. does not disclose or suggest performing a fluorination process on any dishwashing components, and Seip et al. would teach away from utilizing

Application Serial No. 10/617,376
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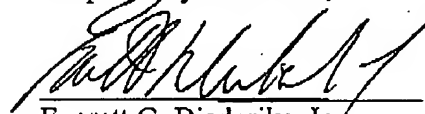
such a treatment on appliance components as Seip et al. specifically teaches to employ a totally different treatment process with household articles.

The Examiner also rejects claims 7 and 12 under 35 U.S.C. § 103(a) as being unpatentable over McGinniss et al. in view of Seip et al. and in further view of Büschges et al (U.S. Patent No. 5,882,728). Büschges et al. is directed to a polymeric material consisting of at least one fluorine containing layer and one non-fluorine containing layer. Büschges et al. is particularly concerned with producing polymeric materials that act as a barrier for hydrocarbon-containing mixtures, such as fuel mixtures. It is important to note that the process in McGinniss et al. operates at room temperature at a pressure not substantially above about 1 atmosphere for 1-30 minutes, with a fluorine gas concentration of about 4%. In contrast, Büschges et al. sets forth a process in which a polymer is subjected to a four stage process whereby the polymer is exposed to different pressures, temperatures and fluorine concentrations for different time periods. It is unclear how the Examiner proposes to modify McGinniss et al. with Büschges et al. or why one of ordinary skill in the art would look to use a fuel mixture barrier as set forth by Büschges et al. in the McGinniss et al. in view of Seip et al. arrangement. The Examiner simply states that it would have been obvious to include, in the method of McGinniss et al. and Seip et al., the temperature range and penetration depth as taught by Büschges et al. The Applicant respectfully disagrees. From which stage of the Büschges et al. process does the Examiner propose to take the temperature range, fluorine concentration and exposure time to obtain the penetration depth of 1000 angstroms as required by claim 7? In addition, what motivation exists to pick and choose such process features? It is respectfully submitted that the presented combination is only based on impermissible hindsight and should be withdrawn.

Application Serial No. 10/617,376
Reply to Office Action dated August 23, 2006

Based on the above remarks, the Applicant respectfully submits that the present invention is patentably defined over the prior art of record such that allowance of all claims and passage of the application to issue are respectfully requested. If the Examiner should have any additional questions or concerns regarding this matter, he is cordially invited to contact the undersigned at the number provided below in order to further expedite prosecution.

Respectfully submitted,



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